

REMARKS

Claims 1-8, as amended, remain herein. Claim 8 has been added to further clarify the structure and function of the invention.

1. Applicants acknowledge the need to file a certified copy of the French priority document. That document is being obtained and will be filed when received by applicants' attorneys.

2. Claims 1-7 were rejected under §112, first paragraph, as allegedly failing to comply with the enablement requirement. The Office Action stated "the claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most clearly connected, to make and/or use the invention." However, the Office Action fails to identify any element recited in applicants' claims which is allegedly not enabled by applicants' disclosure.

The Office Action further alleges that "claims go against known common physics." However, no specific element of applicants' claims is identified with this allegation.

Finally, the Office Action states that "applicant is urged to submit evidence that having a smooth surface actually increases backspin." From this statement, applicants' surmise that the allegation of the Office Action is that the recitation of "means for increasing ball spin, including

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a surface roughness Ra of less and 0.25 micrometre,” is allegedly not enabled by applicants’ disclosure.

Page 8 of the Office Action further states:

A requests for information under 37 CFR 1.105 is in demand regarding the present invention on the increase in backspin, what type of groove were on the striking face, the width and depth of the grooves, types of golf balls used to test the invention and the other clubs tested by the applicant in order to show that the reduction in surface roughness is in fact increasing the backspin.

Applicants respectfully traverse the allegation and rejection that any subject matter of applicants’ claims 1-7 is not supported by an enabling disclosure. Commencing at page 3, line 20, of applicants’ specification, the subject matter of applicants’ independent claim 1 is disclosed in virtually the same terms recited in claim 1. At page 3, line 35 et seq., applicants’ specification expressly states “with the wedges having these characteristics, it is possible to very considerably increase the level of backspin, ...” At page 4, lines 27-31, it is explained that by making the strike surface very hard, “it is possible to retain ... a surface of very low surface roughness by virtue of a good resistance to wear and abrasion.” Page 4, lines 32-38, identify specific steel materials for use in making the claimed strike faces; other materials are identified at page 5, lines 1-5 and at page 6, lines 1-7. And, the practical test results reported at page 6, lines 8-35, demonstrate that a golf clubhead having a strike face including surface roughness Ra of less than 0.25 micrometre, as recited in applicants’ claims, in fact increases ball spin.

With respect to the 37 CFR 1.105 request for information, applicants refer to their specification, which is a statement of facts verified by the inventors. The grooves in the strike faces of the clubs used in the practical tests reported at page 6, lines 8-35, of applicants' specification are described at page 5, lines 35-37, and the test clubs were identical in that respect; page 6, lines 10-12. Also note that page 4, lines 22-26, state that the influence of the groove profile vis-à-vis the influence of low surface roughness and hardness is "relatively insensible;" page 4, line 24. Those tests were conducted with a "specific type of balls," page 6, line 16, not different balls. And, as previously mentioned, the test clubs were, except for surface roughness, otherwise identical; page 6, line 11. Thus, the only variable in the practical tests reported in applicants' specification, page 6, was surface roughness, and the results of those tests were increased ball spin where strike surface roughness was less than 0.25 micrometre.

The doubt alleged (at page 8 of the Office Action) about a smoother surface producing increased backspin, should be reconsidered in light of the well known use of smooth, "racing slick" tire treads vis-à-vis treads having grooved tread designs. Physics is applied, not defied, in applicants' invention.

There is no allegation in the Office Action that applicants' specification does not sufficiently teach the manner of making a golf club head having the specific elements recited in applicants' claim 1. See In re Marzocchi, 439 F.2d 220, 223, 169 USPQ 367, 369 (CCPA 1971). In making an alleged lack of enablement rejection under §112, the PTO bears an initial burden of stating a reasonable explanation of why it believes the claimed subject matter is not adequately

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enabled by applicants' specification. In re Wright, 999 F.2d 1557, 27 USPQ 1510 (Fed. Cir. 1993). In the present record there is no allegation that applicants' specification does not teach one skilled in the golf club art how to make the claimed invention. And indeed, the enabling disclosure, including the reported test results -- all of which are sworn statements by the inventors themselves -- completely rebut any allegation of non-enablement.

For all the foregoing reasons, there is not only no sound basis stated in the Office Action for the alleged lack of enablement rejection, but applicants' specification itself affirmatively rebuts any such allegation. Accordingly, reconsideration and withdrawal of this ground of rejection are respectfully requested.

3. Claims 1-7 were rejected under §112, second paragraph, as allegedly failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention, the Office Action referring back to its statements regarding enablement. However, the Office Action fails to identify any aspect of applicants' claims which is not particularly pointed out and distinctly claimed. Applicants' claims expressly recite "a surface roughness Ra of less than 0.25 micrometre." There is nothing indefinite about that recitation. And, see again applicants' response to the enablement question above herein.

For all the foregoing reasons, applicants' claims do particularly point out and distinctly claim the subject matter which applicants' regard as their invention. Thus, applicants' claims are

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fully in accordance with §112, second paragraph, and reconsideration and withdrawal of this ground of rejection are respectfully requested.

4. Claims 1-3 and 6 were rejected under 35 U.S.C. §103(a) over Kobayashi U.S. Patent 4,754,971 in view of Chang U.S. Patent 6,402,636, or Chang in view of Kobayashi; claims 4 and 5 were rejected under 35 U.S.C. §103(a) over Kobayashi in view of Chang, or vice versa, in view of Inamori U.S. Patent 3,975,023; and claim 7 was rejected under 35 U.S.C. §103(a) over Kobayashi in view of Chang, or vice versa, in view of Nagai et al. U.S. Patent 5,190,289.

Applicants' claimed clubhead has a loft angle greater than 45 degrees, a plurality of surface grooves, a surface roughness of less than 0.25 micrometers and a Vickers hardness greater than 5 GigaPascal. No golf clubhead having these elements is disclosed or suggested anywhere in either Kobayashi or Chang. And, the 12 GigaPascal limitation of dependent claim 6 even further distinguishes over those references..

Kobayashi discloses a set of golf clubs having striking surfaces with different loft angles and coefficients of friction. While Kobayashi, column 1, lines 27-37, and column 4, lines 55-61, names certain materials that may be used as strike surfaces in golf clubs, Kobayashi column 4 simply identifies sandblasting, various groove densities, or coatings, as ways to increase the coefficient of friction of the striking face of a golf club. While portions of the Kobayashi disclosure, such as column 4, lines 63 through column 6, line 25, and column 7, lines 14 through

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32, refer to wedges or short iron clubs, most elements of applicants' claimed club head are simply not disclosed in Kobayashi.

The Office Action expressly admits that "Kobayashi does not disclose the surface roughness or the hardness of the striking face." And, Kobayashi certainly does not disclose surface roughness Ra of less than 0.25 micrometre, or 0.15 micrometre as in claim 2, as a means for increasing ball spin. Thus, there is no disclosure or teaching in Kobayashi which would have suggested applicants' presently claimed invention to one of ordinary skill in the art.

Chang has been discussed in applicants' earlier Amendments in this application. The Office Action, page 3, again repeats that:

Chang discloses a metal golf club having a striking face comprising a means for increasing ball spin that includes a surface roughness of less than about 25 microinches, or 0.635 micrometers

But, Chang's disclosed surface roughness is of the metal before applying Chang's PTFE coating, which is the ball striking surface in Chang. Also see new claim 8.

The Office Actions of November 24 and May 24, 2004, as well as the Office Action of June 13, 2005, all admit that Chang '636 teaches a surface roughness of less than about 0.635 micrometers "in order to reduce the spin imparted to a golf ball struck by the clubhead." Office Action, 6/13/05, page 3; emphasis added here. The earlier quoted statement wherein the Office Action said that Chang discloses "means for increasing ball spin that includes a surface roughness of less than about 0.25 micro inches, or 0.635 micrometers" is simply contrary to the Chang disclosure. Chang reduces ball spin, not increases ball spin.

Thus all of the Office Actions have argued, and thus admitted, that a person skilled in the art would have found it obvious to modify the clubhead of Kobayashi to have a surface roughness taught by Chang '636 "to reduce the spin imparted to a golf ball struck by the club head" (emphasis added here). Chang '636 teaches only a surface roughness of "less than about" 0.635 micrometers. Chang '636 does not disclose how much less than that figure, except to say that reduced backspin occurs, which thus teaches diametrically away from applicants' claimed invention.

Applicants' specification, page 3, line 35 to page 4, line 2, effectively states that (Chang's) reduction in spin does not happen at the presently claimed combination of extreme degrees of minimal surface roughness, and high surface hardness. Rather, applicants' specification explains that a wedge having the claimed highly polished strike face with a very high degree of hardness results in a considerable increase in backspin, contrary to expectations in the prior art that the level of friction between the strike face and the ball would markedly diminish and thereby reduce the backspin.

Applicants' lesser degree of roughness, beyond that disclosed in the prior art, does not result in reduced backspin, but instead, functions to achieve unexpected increased backspin, as described in applicants' specification, page 4, second full paragraph.

Neither Kobayashi, nor Chang '636, (nor other prior art), teaches or suggests that it would be beneficial or desirable to extend further the Chang '636 level of surface smoothness, together with a suitable degree of hardness, to applicants' claimed extreme levels where

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increased backspin is achieved. A person skilled in the art, following Kobayashi or Chang '636 would reduce the surface roughness and increase the hardness only to achieve expected reduced backspin. Neither reference teaches or suggests anything about applicants' extreme degrees of surface smoothness or hardness, that together produce an opposite effect, i.e., increased backspin.

For the foregoing reasons, neither Kobayashi nor Chang '636 contains any teaching, suggestion, reason, motivation or incentive that would have led one of ordinary skill in the art to applicants' claimed invention or its attendant advantages. Nor is there any disclosure or teaching in either of these references that would have suggested the desirability of combining any portions thereof effectively to anticipate or suggest applicants' presently claimed invention and its attendant results. Claims 2, 3 and 6 which depend from claim 1, are allowable for the same reasons explained herein for claim 1. Accordingly, reconsideration and withdrawal of the rejections based on any combination of Kobayashi and Chang are respectfully requested.

Inamori '023 and Nagai '289 were cited for alleged disclosure of ceramic material and a pattern of decreased surface roughness, respectively, but neither of Inamori '023 nor Nagai '289 provides the deficiencies of Kobayashi '971 and/or Chang '636 explained above herein.

For all the foregoing reasons, none of Kobayashi '971, Chang '636, Inamori '023 or Nagai '289 contains any teaching, suggestion, reason, motivation or incentive that would have led one of ordinary skill in the art to applicants' claimed invention. Nor is there any disclosure or teaching in any of these references that would have suggested the desirability of combining

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any portions thereof effectively to anticipate or suggest applicants' presently claimed invention or its attendant advantages. Claims 2-8, which depend from claim 1, are allowable for the same reasons explained herein for claim 1. Accordingly, reconsideration and withdrawal of all rejections are respectfully requested.

All claims 1-8 are now proper in form and patentably distinguished over all grounds of rejection stated in the prior Office Actions. Accordingly, allowance of all claims 1-8 is respectfully requested.

Should the Examiner deem that any further action by the applicants would be desirable to place this application in even better condition for issue, the Examiner is requested to telephone applicants' undersigned representatives.

Respectfully submitted,

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